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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/550,279

09/23/2005

Alessandro Spaggiari

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12/17/2007

NATH & ASSOCIATES  
112 South West Street  
Alexandria, VA 22314

EXAMINER

EASTMAN, AARON ROBERT

ART UNIT

PAPER NUMBER

4147

MAIL DATE

DELIVERY MODE

12/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/550,279 | <b>Applicant(s)</b><br>SPAGGIARI, ALESSANDRO |  |
|                              | <b>Examiner</b><br>Aaron R. Eastman  | <b>Art Unit</b><br>4147                      |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>23 September 2005</u> .                                       | 6) <input type="checkbox"/> Other: ____.                          |

**DETAILED ACTION**

***Specification***

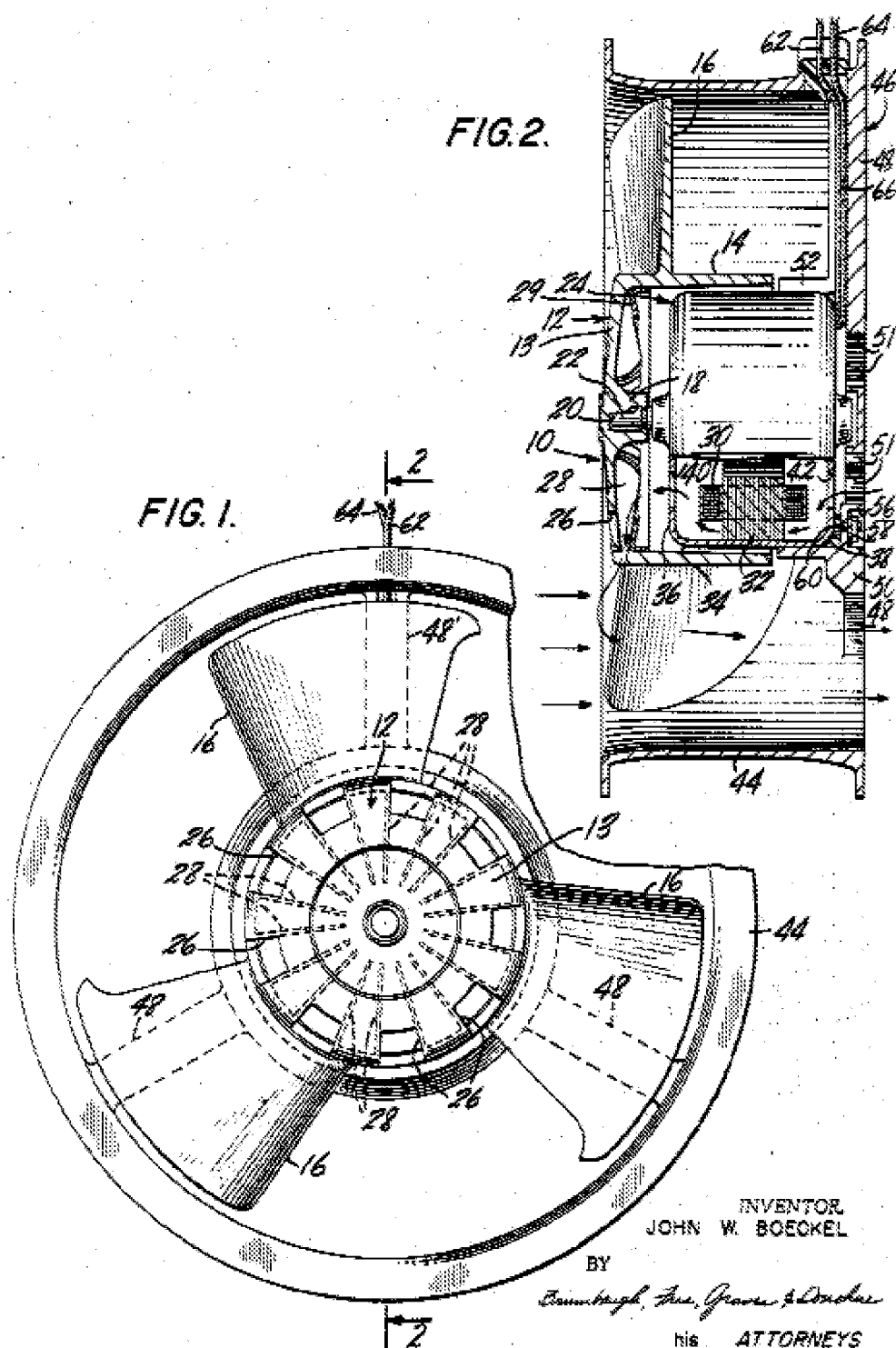
1. The disclosure is objected to because of the following informalities: On page 3, Line 6 reads "...and a plurality of blades 5, seven in the embodiment illustrated in Figure 1...". It should be changed to read "...and a plurality of blades 5, eight in the embodiment illustrated in Figure 1...".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US PAT 3,303,995 (Boeckel hereinafter)



**Fig. 1 and Fig. 2 of United States Patent No. 3,303,995 (Boeckel hereinafter)**

- In re Claim 1, Boeckel discloses (see Fig.'s 1 and 2 above):

An axial fan in which an impeller comprises a hub (12), motor-powered so that it rotates about its own central axis in a predetermined direction of rotation, and a plurality of blades (16) extending from the hub (12) in directions transversal to the axis; the hub (12) having a cup shape and being formed by a bottom wall (13) and a ring-shaped side wall (14); the bottom wall (13) having a plurality of long ribs (28) arranged in a radial direction and extending in height towards the hub (12) cavity, each of the ribs (28) abutting on an internal face of the ring-shaped side wall (14) and delimiting, together with said ring-shaped side wall (14), a corner area of the bottom wall (13) positioned in front of the rib (28) with reference to the direction of rotation; the fan being characterised in that each corner area has a through-hole (26) for discharging any debris, in particular water, sand, soil or sludge, from the hub (12) cavity to the outside of the hub (12).

- In re Claim 2 Boeckel discloses (see Fig.'s 1 and 2 above):

The fan according to claim 1, characterised in that the through-holes (26) are evenly distributed along a circle centred on the axis and close to the ring-shaped side wall (14).

- In re Claim 4 Boeckel discloses (see Fig.'s 1 and 2 above):

The fan according to any of the foregoing claims, characterised in that in each of the said corner areas a through-hole (26) is delimited by at least three walls, of which a first wall substantially acts as an extension of the ring-shaped side wall (14).

- In re Claim 5 Boeckel discloses (see Fig.'s 1 and 2 above):

The fan according to any of the foregoing claims, characterised in that in each corner area a through-hole (26) is delimited by at least three walls, of which a second wall substantially acts as an extension of the rib (28).

- In re Claim 6 Boeckel discloses (see Fig.'s 1 and 2 above):

The fan according to any of the foregoing claims, characterised in that, with reference to the direction of the axis and to the direction of rotation of the hub (12), each through-hole (26) is delimited by at least three walls, of which a first flat external wall lies in a plane at a right angle to a radial direction and to the bottom wall (13).

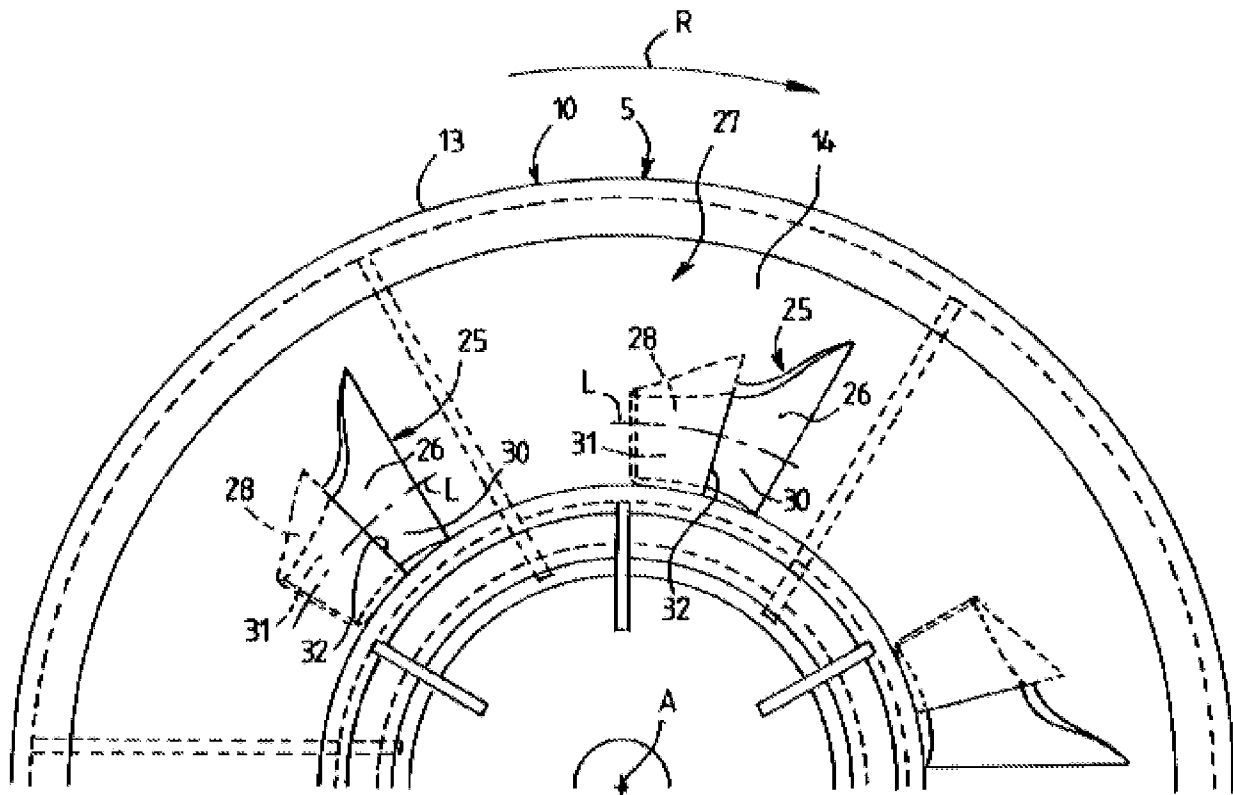
- In re Claim 7 Boeckel discloses (see Fig.'s 1 and 2 above):

The fan according to any of the foregoing claims, characterised in that, with reference to the direction of the axis and to the direction of rotation of the hub (12), each through-hole (26) is delimited by at least three walls, of which a second flat rear wall lies in a plane parallel with a radial direction and is angled backwards by a predetermined angle relative to the direction of the axis.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



**FIG. 5**

**Figure 5 of FR 2,815,676 A (Gassmann hereinafter)**

Claims 3 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boeckel in view of FR 2,815,676 A (Gassmann hereinafter). In regard to Claims 3 and 8-11, Boeckel (US PAT 3,303,995) discloses the invention substantially as claimed but does not disclose "...a third flat internal wall lies in an oblique plane relative to a radial direction and at a right angle to the bottom wall." Boeckel also fails to disclose "the through-holes have a substantially triangular prismatic shape." Gassmann, in reference to Fig. 5 above, discloses through-holes that are not quadrilateral (Boeckel

discloses quadrilateral holes). Not all walls of said (Gassmann) through-holes are perpendicular to the bottom wall. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a through-hole with a substantially triangular prismatic shape with a wall/walls that is/are oblique to the radial direction as taught by Gassmann.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kessel (U.S. Patent No. 2,409,497) discloses a rotary mechanism with holes for debris to pass through. Warhol (U.S. Patent No. 3,885,888) discloses a hub structure similar to that in the instant application. Woodworth et al. (U.S. Patent No. 4,840,645) discloses unwanted particulate matter traveling along vanes and thrown to collection channels via centrifugal force. Yu et al. (U.S. Patent No. 5,921,746) discloses a contaminant collection channel to hold contaminants placed there by centrifugal force for later removal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron R. Eastman whose telephone number is 571-270-3132. The examiner can normally be reached on Mon-Fri 9:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aaron R. Eastman  
Examiner  
Art Unit 4147

/George Nguyen/  
Supervisory Patent Examiner, Art Unit 4147